



DOON UNIVERSITY, DEHRADUN
Semester Mid-term Examination, First Semester, 2014
School of social science
M.Sc. (Economics)
Course: SSEI-112-Mathematics I

Time Allowed: 2 Hours

Maximum Marks: 30

Note: Attempt All Questions from Sections A, B, C.

SECTION : A (Short Answer Type Questions/ to be answered in about 25/75 words.
Attempt any three Questions (3*2=6 marks)

1. Prove that $\sim(P \rightarrow Q) = P \wedge \sim Q$
2. What is the straight line? What is the formula for the gradient of the straight line?
3. What you mean by relation and type of the relation.
4. Solve :

$$\frac{a-x}{a} + \frac{2a-x}{2a} = \frac{3a-x}{3a}$$

SECTION: B: attempt any three. (Short Answer Type Questions to be answered in about 100/250 words) (3*4=12 marks)

1. The line passing through the point (3, -2) and inclined at 45 degree to the X-axis, meet the line $\sqrt{2}x + 2\sqrt{2}y - 6 = 0$ in the point p. find the distance between points.
2. Solve the equations:
 $X^2 + xy + y^2 = 19$
 $X^2 - xy + y^2 = 7$
3. Construct the table for
 $p \rightarrow \{(q \vee r) \wedge \sim(p \leftrightarrow \sim r)\}$.
4. What are the functions or mapping? Discuss the types of mapping.

SECTION : C attempt any two questions. (Long Answer Type Questions to be answered in about 750 words) (2*6=12 marks)

1. Solve the equation
 $X^4 + 2x^3 - 13x^2 + 2x + 1 = 0$

2. What you understand by co-ordinate geometry. Explain its development and application areas.

3. The sum of two roots of

$x^4 - 8x^3 + 9x^2 + 4\lambda x + 2 = 0$ is equal to the sum of the other two roots find λ and solve the equation.